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ABSTRACT

5 An interferometry system for making interferometric measurements of an object, the system including: a beam generation module which during operation delivers an output beam that includes a first beam at a first frequency and a second beam at a second frequency that is different from the first frequency, the first and second beams within the output beam being coextensive, the beam generation module including a beam

10 conditioner which during operation introduces a sequence of different shifts in a selected parameter of each of the first and second beams, the selected parameter selected from a group consisting of phase and frequency; a detector assembly having a detector element; and an interferometer constructed to receive the output beam at least a part of which represents a first measurement beam at the first frequency and a second measurement

15 beam at the second frequency, the interferometer further constructed to image both the first and second measurement beams onto a selected spot on the object to produce therefrom corresponding first and second return measurement beams, and to then simultaneously image the first and second return measurement beams onto said detector element.